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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,811	12/06/2004	Richard Syms	3599 P 007	7312

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EXAMINER	
DOAN, JENNIFER	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/516,811	SYMS ET AL.	
	Examiner	Art Unit	
	Jennifer Doan	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5,7,8,10,12-15 and 23-25* is/are rejected.

7)☒ Claim(s) *2,3,6,9,11 and 16-22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *041105*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 04/11/05, have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

3. The drawings, filed on 12/06/04, are accepted.

Specification

4. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 5, 7-10, 12-15 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts et al. (Micro-Opto-Electro-Mechanical Systems).

With respect to claim 1, Roberts et al. (figures 1, 2a and 2b) disclose an optical reading device having a light source (laser), a movable optical waveguide, an actuator, a detector (photodetector), and wherein the actuator and detector are integrally formed in a substrate (silicon substrate), the movement of the waveguide being effected by action of the actuator thereon, and wherein the detector provides a confocal detection system adapted to effect a detection of light backscattered into cladding of the waveguide (page 2, line 6-25).

With respect to claim 4, Roberts et al. (figure 1) disclose the optical reading device, wherein the waveguide externally attached or coupled to the device (see figure 1).

With respect to claim 5, Roberts et al. disclose the optical reading device, wherein the optical waveguide is single-moded and polarization-preserving (page 2).

With respect to claims 7-9, Roberts et al. (figure 1) disclose the optical reading device, wherein the optical waveguide is positioned on a suspended cantilever above the substrate and wherein the waveguide has a root and is supported only near its root or along its length by a mechanical layer (see figure 1).

With respect to claim 10, Roberts et al. (figure 1) disclose the optical reading device, wherein the actuator and detector are integrally formed in a silicon based layer (see figure 1).

With respect to claim 12, Roberts et al. (figure 1) disclose the optical reading device, wherein the detector is placed beneath the waveguide to detect cladding modes present in the waveguide (see figure 1).

With respect to claims 13 and 14, Roberts et al. (figure 1) disclose the optical reading device, wherein the detector is a photodetector and is placed or formed at the tip of the cantilever and the photodetector is placed near the root of the cantilever (see figure 1).

With respect to claim 15, Roberts et al. (figure 1) disclose the optical reading device, wherein the actuator is placed near the root of the cantilever (see figure 1).

With respect to claim 23, Roberts et al. (figures 1, 2a and 2b) disclose an optical reading system comprising a device having at least one of the following components:
a) a cantilevered single-mode optical waveguide suitable for transmitting light onto a target thereby illuminating the target and adapted to effect a reception of the back-scattered signal from the target into the cladding of the waveguide (figure 1, and page 2, lines 6-14),
b) an actuator capable of achieving large in-plane displacement,
c) motion sensors capable of providing the necessary signals for closed loop control of the scan amplitude,

d) a cladding mode detector capable of implementing a confocal detection system so as to effect a detection of the light backscattered into the cladding of the waveguide (figure 1, and page 2, lines 6-14),

e) a lens (GRIN lens, figure 1), which may be formed in the wall of the device package, the device being coupled to a laser source, which may be hybridised or integrally formed with the device of the present invention or linked thereto by a section of optical fibre so as to provide the incident light to the waveguide.

With respect to claim 24, Roberts et al. (figure 1) disclose the system, wherein the elements a/ through e/ are all fagricated in silicon-based material using a compatible process.

With respect to claim 25, Roberts et al. (figures 1, 2a and 2b) disclose a method of forming an optical reader comprising the steps of forming a detector in a substrate; forming an actuator cantilever also in the substrate, coupling a waveguide to the cantilever and wherein the cantilever and detector are integrally formed in the substrate, the waveguide being adapted to transmit light onto a target and receive light backscattered from the target, the light received back into the waveguide being detectable using the detector (see figures 1, 2a and 2b and page 2, lines 6-25).

Allowable Subject Matter

7. Claims 2, 3, 6, 11 and 16-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or reasonably suggest the device further including at least one motion sensor such that any movement of the waveguide is detectable by the motion sensors as recited in claim 2; wherein the optical waveguide is formed as an integrated channel guide formed in dielectric materials and surrounded by a cladding of restricted lateral dimensions as recited in claim 3; wherein the source is polarized and arranged to excite a single polarization mode of the waveguide as recited in claim 6; wherein the detector is constructed in the silicon layer as a p-n junction or p-i-n junction photodiode as recited in claim 11; and wherein the actuator is constructed as an electrothermal or electrostatic drive as recited in claim 16.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bush et al. (U.S. Patent 6,995,357) disclose a scanning laser beam.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Doan

JD

JENNIFER DOAN
PRIMARY EXAMINER

March 3, 2006